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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/533,211	04/28/2005	Jaap Andre Haitzma	2167.007US1	7069
21186 7590 06/12/2007 SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A. P.O. BOX 2938 MINNEAPOLIS, MN 55402			EXAMINER ARANI, TAGHI T	
			ART UNIT 2139	PAPER NUMBER
			MAIL DATE 06/12/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/533,211	Applicant(s) HAITSMA, JAAP ANDRE	
	Examiner Taghi T. Arani	Art Unit 2139	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 March 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-8 and 12-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 12-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-8 and 12-15 have been examined and are pending.

Response to Arguments

2. Applicant's amendment and arguments filed 3/19/2007 have been fully considered and are persuasive. Therefore, a new ground(s) of rejection is presented in this Office action.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 1-3, 6-8 and 12-15 are rejected under 35 U.S.C. 102(a) as being anticipated by Cano et al. al. (IDS filed 04/13/2006, "Robust Sound Modeling for Song Detection in Broadcast Audio", hereinafter "Cano").

As per claims 1 and 15, Cano discloses a method and a machine-readable medium having instruction data to cause a machine to match a set of input fingerprint blocks, each fingerprint block representing at least a part of an information signal, with fingerprints stored in a database that identify respective information signals, the method comprising the steps of
(Abstract):

selecting a first fingerprint block of said input set of fingerprint blocks; finding at least one fingerprint block in said database that matches the selected fingerprint block (page 5, left column, under Approximate Matching, discloses the audio fingerprint matching, which compares

fingerprints from observed audio signals against reference fingerprints in a database (i.e. exact matching));

selecting a further fingerprint block from said set of fingerprint blocks at a predetermined position relative to said first selected fingerprint block; locating at least one corresponding fingerprint block in said database at the predetermined position relative to said found fingerprint block; and determining if said located fingerprint block matches said selected further fingerprint block (page 5, right column, under Special Properties, wherein it is disclosed that AudioGenes have additional time information which is a significant difference to standard string applications, and that this information is used in the an approximate matching algorithm (see also Fig. 6) , the approximate matching algorithm starts at the positions of the previously found positions).

As per claim 2, Cano discloses a method as claimed in claim 1, the method further comprising iteratively repeating selecting a further fingerprint block, locating a corresponding fingerprint block in said database and determining if said located fingerprint block matches said selected further fingerprint block for different predetermined positions relative to the first selected fingerprint block (Page 5, right column under Matching Process, where it is disclosed under that a short subsequence of AudioDNA from an observed audio stream are continuously extracted and compared with the fingerprints in the database. The results of exact match are stored in a balanced tree data structure for further processing steps, and that an approximate matching is used to detect similarities of longer sequences starting at the position of the exact matches).

As per claim 3, Cano discloses a method as claimed in claim 1, wherein said predetermined position is an adjacent position (Page 4, left column, discloses AudioDNA, wherein it is disclosed that the spacing between blocks is around 10 ms and blocks are overlapped to give longer analysis window about 25 ms).

As per claim 6, Cano discloses a method as claimed in claim 1, further comprising:

receiving an information signal; dividing the information signal into sections; and generating said input block by calculating a fingerprint block for each section (page 4, left column, Fingerprint Extraction: AudioDNA, where the input audio is divided into blocks and from each block some features is derived).

As per claim 7, Cano discloses a method of generating a logging report for an information signal comprising:

dividing the information signal into similar content segments (pages 122

; generating an input fingerprint block for each segment; and repeating the method steps as claimed in claim 1 so as to identify each of said blocks ((page 4, left column, Fingerprint Extraction: AudioDNA, where the input audio is divided into blocks and from each block some features is derived, see also rejection of claim 1 above)).

As per claim 8, Cano discloses a method as claimed in claim 7, wherein said information signal comprises an audio signal, and wherein each segment corresponds to at least a portion of a song (Page 4, left column, discloses AudioDNA, wherein it is disclosed that the spacing between blocks is around 10 ms and blocks are overlapped to give longer analysis window about 25 ms).

Claim 12 is an apparatus corresponding to method claim claims 1. Claim 12 is rejected for the same reasons provided in the statement of rejection of claim 1.

As per claim 13, Cano discloses an apparatus as claimed in claim 12, further comprising a database arranged to store fingerprints identifying respective information signals and meta-data associated with each signal (, page 2, Audio Fingerprinting, Fig. 1 and associated text, i.e. *building the database* based on acoustic characteristics).

As per claim 14, Cano discloses an apparatus as claimed in claim 12, further comprising a receiver for receiving an information signal, and a fingerprint generator arranged to generate said set of input fingerprint blocks from said information signal (Fig. 1 and associated text , page 2, left column, Audio Fingerprinting, where two operating modes are discussed, wherein actual audio identification of the unlabelled audio is processed in order to extract the fingerprint, then the fingerprint is compared to the fingerprints of the database).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cano as applied to claim 1 above, and further in view of US patent 7,082,394 to Burges et al. (hereinafter "Burges").

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4. As per claims 4 and 5, Cano teaches a method as claimed in claim 1, wherein a match in said finding step is deemed to have occurred if the number of differences between the selected fingerprint block and the least one fingerprint block in said database is below a first threshold (page 5, right column (Matching Process0, wherein a the actual result (matching music title or “unknown”) of the approximate matching process is derived from an empiric model using similarity values S computed over length of the compared sequence).

Cano does not teach a match in said determining is deemed to have occurred if a number of differences between the selected further fingerprint blocks and the located fingerprint block is below a second threshold, wherein said second threshold is different from said first threshold.

However, in an analogous art, Burges is directed to Noise-Robust Feature Extraction using Multi-layer Principal Component Analysis, wherein two fingerprints per audio clip are used: the initial one, and a ‘confirmatory’ fingerprint right after initial one which allows a threshold for acceptance to be lowered (col. 5, lines 20-41).

Therefore, it would have been obvious to one of ordinary skill in the art to employ the teachings of Burges in the method and system of Cano for a second threshold different from the first the first threshold for several reasons suggested by Burges (col. 5, lines 25-37).

Conclusion

5. Prior arts made of record, not relied upon:


See enclosed PTO-892.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Taghi T. Arani whose telephone number is (571) 272-3787. The examiner can normally be reached on 8:00-5:30 Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh can be reached on (571) 272-3795. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


TAGHI ARANI
PRIMARY EXAMINER
6/8/07